

THE
AMERICAN JOURNAL
OF THE
MEDICAL SCIENCES.

ART. I. *On the Secale Cornutum, or Ergot.* By W. P. DEWEES,
M. D. Adjunct Professor of Midwifery in the University of
Pennsylvania.

THE ergot has obtained throughout this country, as well as in Europe, a reputation as a powerful auxiliary in the practice of midwifery. But great diversity of opinion seems to exist, as to the precise estimation in which the article should be held; its claim being extravagantly urged by some practitioners, while by others it has been condemned as useless, and its employment even deprecated. Under these circumstances, it may be considered as not altogether uninteresting to inquire, what are its real powers; under what circumstances it is useful; and, what are the rules which should be attended to, in order to prevent any evil following its exhibition.

The action of the ergot appears to be specifically upon the uterine fibres; urging them sooner or later to more or less violent contraction. It is not the alternate contraction alone that is increased by this substance; the tonic, which is of much more value, is also powerfully augmented; since it can, in consequence of this power, be most advantageously employed, in many cases where this effect is all-important. In this respect it appears different from other stimuli, which may exert an influence upon this organ; such as opium, the oil of cinnamon, volatile alkali, &c.; or the mechanical stimulus of the forceps, vectis, or the hand.*

* I have never witnessed any exaltation of the powers of the arterial system, or any other marked effect, (if we except its specific action,) from the exhibition of the ergot, though I have been very attentive to the subject. But it is declared by Dr. Osler, on the authority of Dr. Erskine and others, that it slightly increases the fulness and frequency of the pulse; produces a glow

Each of the stimulants just mentioned, has been known to rouse the alternate contractions of the uterus into a temporary, and sometimes successful action; but after neither does the tonic contraction follow, with any degree of certainty; nay, we may with much truth declare, that inertia of this organ is very apt to follow their employment. Thus we witness hæmorrhage sometimes succeed the use of either of the remedies just named, though successfully exerted as regards the mere delivery. But so far as my own experience goes, or a pretty extensive inquiry will justify the declaration, I can say, that neither myself, nor such of my friends of whom I have asked the question, have ever witnessed such a consequence follow the use of the ergot.

So far then, I think we may with much confidence declare, that every other stimulus which has contributed to the energy of the uterus, except the ergot, has been followed occasionally by inertia of that organ; this fact is of high practical importance, as it leads to an almost certain mode of treating such females as may be habitually liable to floodings after delivery. It also, on the other hand, points out a caution of equal practical importance; namely, not to exhibit it, when there may be a chance that turning may be necessary; but more of this presently.

There is another peculiarity attending the action of this substance, not less remarkable, perhaps, though not equally important; namely, the promptitude of its action; for we have constantly observed, that if it do not manifest an influence in twenty minutes, or half an hour at farthest, it utterly fails. The action of this substance is generally so extremely prompt, as sometimes to create a doubt of its agency in the minds of those unaccustomed to its influence. But I am quite certain, that the ergot never acts with so much efficacy as when it acts quickly; indeed I might say that its success is almost in proportion to its promptitude.* By many, this very sudden action of the uterus has been attributed to coincidence, rather than the effect of the

over the surface; excites nausea and sometimes vomiting, and pain and giddiness of the head.—*Philadelphia Journal of the Med. and Phys. Sciences*, No. 3, N. S.

As far as I have been able to determine, the effects of this substance are confined to the nervous system; and through its intervention, acts specifically upon the uterus. Nor are its powers confined to the human uterus; it acts with equal and similar efficacy upon the uterus of the brute. We are told it is familiarly used near Lyons, to aid the parturient cow.

* Goupil says, "la rapidité avec laquelle le seigle a produit son effet est réellement surprenante; elle peut être comparée à l'action de l'émétique." *Journal des Progrès*, Vol. III.

remedy. This may occasionally be the case, as we see changes similar to those effected by the ergot, take place as suddenly where none has been exhibited; but it would be unfair to declare this to be the case always.

Thus, on the 11th of November, 1827, I was called to Mrs. V. in labour with her fifth child; the waters had discharged themselves half an hour before my arrival, and the patient had experienced a number of very smart pains. After the escape of the liquor amnii, they abated both in force and frequency. On the accession of a pain I examined my patient, and found the presentation to be a first presentation, and the head arrived at the inferior strait; the mouth of the uterus was fully dilated, and every thing gave promise of a speedy delivery. But the pains became still more feeble and longer apart, and after waiting an hour and an half for their amendment without advantage, I resolved upon exhibiting the ergot; especially as my patient became clamorous for its exhibition. The ergot was accordingly sent for; the messenger had scarcely left the house, before the powers of the uterus were spontaneously roused, and with such efficacy that the child was upon the point of being born, when it arrived; it was, therefore, not given; ten minutes more were all that was necessary for the completion of the delivery. In this case, had the ergot been given, the alteration in the action of the uterus would doubtless have been attributed to it, by those unacquainted with the peculiarities of its action; yet an experienced eye and ear would readily have detected its want of efficacy, did it exert no power, as well as be able to determine its agency, if it co-operated with the newly-awakened powers of the uterus.

As regards myself, I have the most firm reliance upon the powers of the ergot. And, the character of its action is so distinctly marked, that a very little observation will enable us to detect it. Whether or not the peculiarity of the effort produced by the ergot has been observed by others, I cannot say;* it appears to be perfectly well defined and characteristic; so that I think I am always able to distinguish the cases of coincidence, from those in which the ergot was decidedly operating.

When ergot has been administered with success, we find the uterine effort not only more quickly repeated, and more powerfully exerted, but these efforts are accompanied with less suffering, than the same apparent exertions of this organ, where not urged by this drug.

* Many speak of its specific action; or of its specific influence, but I do not recollect to have seen any account of the details, in what these specific effects consist.

The woman, when interrogated with respect to her feelings, expresses her sensations by saying she feels "as if every thing was forcing from her;" but at the same time admits, that the pains have not the same character with those she suffered before: indeed, it very frequently happens, that there is a great abatement of suffering, by converting a concentrated pain, and this most frequently in the back, to a more generally diffused one over the abdomen; or by obliging the back to participate if the abdomen has been the particular seat of it. At the same time, it must be confessed that the intervals between the contractions are more uncomfortable, as an almost constant *nismus* is kept up by the excited, or rather, it would seem, the goaded uterus, though the sensation does not amount to pain. Now the presence of the circumstances just noticed, constitute the peculiarity of the action of the *secale cornutum*.

Some of my medical friends, but they are very few indeed, declare they never have witnessed *any effect whatever from the ergot even when it has been administered in large doses.** I account for this discrepancy of result, only by supposing the ergot which they employed was effete; a circumstance, I have reason to believe from experience, of no unusual occurrence.

The like want of faith in the powers of this article, seems to prevail with many respectable practitioners in Europe; and which may be accounted for, perhaps, upon the same principle. Dr. DAVIS, an accoucheur of deserved eminence, says that "the pretensions of the *secale cornutum* have been generally known to the profession for nearly twenty years; yet the actual fact of its power, has not been satisfactorily established; nor is there evidence of its having, in a single instance, superseded the necessity of using the forceps."[†] This assertion, it must be observed, is one which admits of no possible demonstration; since it would be impossible to prove, that the case in which the ergot appeared to be successful, would absolutely have required the use of the forceps, or that the cases relieved by the forceps might not, in many instances, have been successfully treated by the ergot: yet so far, I can safely aver that a number of instances have occurred, in which I believe I should have employed the forceps, previously to my acquaintance with the powers of the ergot, but which were terminated by this drug, both promptly and safely. And fur-

* Chaussier and Madame La Chapelle, also declare they have never witnessed any effects from the ergot, in the trials they made of it, in "*La maternité de Paris.*"

† Elements of Operative Midwifery.

ther; I am certain that I do not now use the forceps once, where I formerly used them ten times.

And the reason of this abatement in the employment of the forceps, may I think, be justly attributed to the almost universal use of the ergot, by every kind of practitioner of midwifery; and hence I presume, that the *secale cornutum*, now achieves deliveries, that would have required the forceps formerly; for were this not the case, I think I should be called upon as formerly, to aid the labour with these instruments.

As every thing depends upon the proper quality of the ergot, it should be kept whole in a glass bottle with a ground stopper; and only powdered, *pro re nata*; nor should it ever be used when it exceeds a year in age;* for the ergot, like almost every other vegetable substance, is easily acted upon by heat and moisture; and consequently, it is easily deteriorated when exposed to their influence. I have in several instances failed to produce the slightest effect with the ergot procured at one shop; whilst, that from another, in the same patient, has been as prompt, as efficacious.

I have generally administered the ergot in substance; some prefer it in infusion.† Twenty grains in a little sugar and water may be given at once; and I seldom exceed this quantity; as I have rarely found the further exhibition of it attended with better effect. My valued friend, Dr. George Holcombe, of Allentown, N. Jersey, objects very strongly to the quantity just named; and proposes much smaller doses, but more frequently repeated; or as often as it may be necessary.‡

* We are however informed, by Lorinser, (*Edinb. Med. and Surg. Journal*, for Oct. 1826, p. 453,) that it preserves its powers perfectly for two years, as far as regards its operation on the stomachs of men; but whether it retains its specific powers upon the uterine fibre for that period, does not appear to have been ascertained by his experiments. On the other hand, we are directed by Goupil, (*Journal des Progrès des Sciences, et Institutions*, &c. vol. iii. 1827, p. 170,) in order to be certain of the peculiar properties of this substance, to use it the same year in which it has been collected; and that it must be kept in bottles hermetically sealed; and not be powdered, but as it may be wanted.

† Bordot informs us, that the old women in the department of "Cote d'or," infuse a handful of this substance in a cup of water, and give a table-spoonful of it every five minutes. This dose, Goupil observes, is much stronger than that pointed out by accoucheurs; but he says we must notice the manner in which it is taken, as it is much less active than when given in powder.—*Ib.* p. 171.

‡ See Philada. *Journal of the Medical and Physical Sciences*, Vol. II. N. S. p. 317.

I think I am every way right, when I say, that there is no decisive instance extant, in which the "ergot" has had a direct unfriendly influence upon the child. I am aware much has been said to the contrary, by many respectable practitioners; but I think it would be no difficult matter to show, that when a still-born child has followed the exhibition of the "ergot," it has been constantly owing to the following circumstances. First, it has been given too early; that is, long before any reasonable expectation *should have been entertained*, that delivery would soon follow its exhibition, owing to the want of relaxation in the soft parts: second, given when the head has not been well situated, and the practitioner perhaps not aware of this circumstance; consequently, making a wrong estimate of the time that must elapse before delivery could take place, after its exhibition. This latter error very commonly arises, from the facility with which the head of the child may generally be felt; or its supposed disposition to escape through the external parts, because they, as well as the uterus, are favourably disposed. No mistake is more common, among those who are ignorant of the mechanism of labour; for they suppose there is little to do; and "were the pains but *a little stronger*, the child would soon be delivered:" under this delusion the ergot is given, with the expectation of a speedy issue. But this does not take place agreeably to their hopes, and very much to their surprise; for they are altogether unable to account for its failure. Whereas, an enlightened practitioner, would instantly have detected the wrong position of the head, and would have seen at once, how much was yet to be effected before delivery could take place. He would also have been able, very nearly, to determine the time and the degree of effort it would have required to terminate the labour; and he would have withheld the ergot, until more had been done by the unaided contractions of the uterus. But the better to illustrate this fruitful source of error, we will first refer to the position of the head, when not well situated: and second, to the difficulty the head sometimes finds in undergoing these changes, even when it is well situated, and the soft parts, favourably disposed.

1st. The difficulty arising from the position. Thus, in the fourth, fifth, and sixth presentations, there may be much delay, from the forehead being sometimes obliged to come under the arch of the pubes; in the two first, probably, if not changed; and unavoidably, in the last; which circumstance may have escaped the calculation of the practitioner at the time he exhibited the ergot, or he may have been ignorant of it; consequently much unlooked for delay may ensue, and this sometimes to the injury of the child and the uterine parietes. But in

this case no blame should attach to the "ergot" specifically, for the same consequences will follow from the long-continued efforts of the uterus, where none of this substance has been administered. BAUDELOQUE gives us instances of this kind, and every practitioner of any standing must have observed the same thing. Indeed the danger to the child after the evacuation of the waters, is always in proportion to the tonic power and the continuance of the alternate contractions of the uterus; hence we have always reason to apprehend that the child will be still-born, when the uterine contractions continue very long, and with much force after the discharge of the liquor amnii: we are persuaded this is agreeable to the experience of all who practice midwifery. If this be so when no "ergot" has been administered, it may certainly, *à fortiori*, happen after it has been given, without any blame justly attaching to its powers. Some have carried their apprehensions of this substance so far as to declare it will produce vesications, and inflict other injuries upon the child's skin in the short time that shall elapse after its exhibition and the final termination of the labour. This is even more incomprehensible and incredible than the influence of the imagination upon the *fœtus* in utero, at least it should be classed with it.

2d. The difficulty the head sometimes finds in undergoing the changes necessary for its escape from the pelvis when the soft parts are well disposed.

This may arise from several causes. First, when a proper relation does not exist between the head and the pelvis, even when the head is well situated. When this happens, a long series of efforts will be required to force the posterior fontanelle to place itself under the arch of the pubes, and nothing but an enlarged experience, with an entire knowledge of the mechanism of labour will enable the practitioner to determine the quantity of force, and the lapse of time that will be required for this purpose. In this case, should the "ergot" be resorted to, it will be blamed, if the child be still-born, when it is altogether the fault of the practitioner—for in this case the "ergot" should not have been given, so long as the natural pains continued powerful; for it is not so much by multiplying the force, as by repeating its application, that the desirable end is effected. We have known the "ergot" given under these circumstances, and the uterus to become exhausted by being thus unduly urged; and the only resource ultimately has been in the forceps. Second; at other times when the posterior fontanelle has even placed itself under the arch of the pubes, it will sometimes require the long-continued and the often repeated efforts of the uterus to carry the parietal protuberances below the

tubers of the ischia. Now if "ergot" be given in this case, and the child be still-born, it may be blamed, when it had no agency in the disaster.

Dr. HENRY DAVIES says, "it may be observed that in some cases, when the pelvis was a little confined, and when the head was not sufficiently low down for the application of the common forceps, the *secale* has been successfully used, and the child delivered with the forceps: very great discretion in these cases is required."* Dr. Davies gives several well marked instances of the influence of the ergot in feeble action of the uterus.

But certainly the most common cause of the failure of the "ergot," is owing to its injudicious and indiscriminate exhibition. It has been given we have well ascertained, before the membranes have been ruptured, the os uteri at all dilated, and the external parts quite rigid. What but defeat and injury can result from such an improper use of this powerful aider of uterine contraction? This substance is now in familiar use among midwives who have neither principles nor experience to direct its proper employment, and we are credibly informed it is used in this city by a practitioner in extensive business, in almost every case to which he is called.

This is truly the abuse of a valuable remedy; for if our information be correct, the too free use of it in this gentleman's practice has occasioned very many prolapsus uteri. This effect of the ergot may perhaps be questioned by some, but I have not the smallest doubt of the fact, from what I have seen when this medicine had been improperly taken. A lady aborted at a little beyond the fifth month, with twins. The involucra did not come away for several days after the expulsion of the embryos; and as these came off in one mass very soon after taking twenty grains of ergot in powder, the lady could not be persuaded but that one of the placentæ remained, and became very anxious for its discharge, and desired that another dose of the ergot might be given her. This I absolutely refused; but at the same time assured her in the most positive manner that nothing remained to come away. She, however, it seems was not convinced; for I had scarcely left the house before she caused another portion of the ergot to be given her. The consequences were a repetition of violent pains, and the escape of a considerable portion of the uterus through the os externum. She became now excessively alarmed, and I was sent for in haste. I found her in great agony; an agony resembling that of the last moments of labour; and upon examination the uterus was found in the situation just mentioned.

* Medical and Physical Journal, July and August, 1825.

The uterus, owing to the constant and violent nismus created by the ergot,* was restored with some difficulty, and the pains were appeased after a while by large doses of laudanum. She was obliged to wear a pessary for a long time before the uterus recovered its position.

I am, therefore, convinced that much future injury has been sustained by giving this medicine in cases where there is little or no resistance to be overcome; for in such cases the increased efforts of the uterus, produced by the ergot, continue after the child is delivered as its impression does not immediately wear off. In this case, it took place at a time when the uterus had nothing to support or retain it within the pelvis; it must, therefore, become prolapsed if not protruded.

From what has been said, it would appear that the ergot is a powerful medicine; so powerful, indeed, that well defined rules should be laid down for its use. It would seem that it is the improper exhibition of this drug, and not any specific power, that creates the evils but too commonly charged to it; also, that there is no satisfactory evidence of its exercising any baleful effects upon the child in utero.

The following rules for the use of the ergot, if attended to, I think will prevent any evil following its exhibition.

1st. It should never be given before the membranes are ruptured, the os uteri dilated, and the external parts disposed to yield.

2d. It must not be used so long as the natural pains are efficient, and competent to the end.

3d. But should they flag, from any cause, it may be given; provided the labour be a natural labour according to our acceptation of the term "natural labour;" that is, when the head, (if well situated,) the breech, the feet, or the knees, present. For independently of any accident which may complicate the labour, it is sometimes desirable, for the safety of the child, to hasten it when the natural powers are incompetent to this end.

4th. And if the labour be accompanied by any such accident as flooding, convulsions, syncope, &c. it may sometimes be employed to great advantage, provided rules 1 and 2 are not violated.

5th. It may be used very often with much advantage in every kind

* This effect of the ergot has often been noticed; the impression it makes upon the nervous system remains a long time, sometimes even after this substance has been rejected from the stomach; in this respect it is like opium and some other narcotics. Desgranges assures us he has seen the ergot ejected by vomiting, and yet the delivery has gone on with equal speed and certainty.

of premature labour; and at full time, when the placenta is not thrown off, and the uterus is found in a state of atony.

6th. Where flooding takes place after the rupture of the membranes; the os uteri well dilated; the pains feeble, but the child well situated.

7th. Where the head of the child has been left in the uterus by being separated from its body.

8th. Where the uterus is painfully distended by coagula.

Dr. WARD, of New Jersey, recommends that the ergot should be used, "in alarming uterine hæmorrhages, which sometimes take place before delivery, whether it takes place in consequence of a detachment of some portion of the placenta, it being attached to the fundus uteri, or whether it be owing to a separation of its attachment over the orifice of the uterus." In this advice, I cannot agree with this respectable practitioner; for, in the first instance, he states there can be no advantage derived from exciting or increasing pain, unless the os uteri be well opened and the membranes protruding, that they may be easily ruptured, if this can be done with propriety;* for until the liquor amnii be expended, the hæmorrhage cannot be arrested by exciting the alternate contraction of the uterus; and the tonic, by which this discharge can alone, under such circumstances, be stopped, cannot take place until the membranes have given way.

In the second case in which Dr. Ward proposes the ergot, we apprehend it would be decidedly mischievous; as it is found that in placental presentations, the flooding is always increased by pain; as it directly tends to augment the separation of the placenta.

It may, however, be said, that in the unavoidable hæmorrhage, an advantage may be derived from the exhibition of the ergot, by hastening the labour, though it may for a short time increase the discharge. But in order that this reasoning may have any value as a practical precept, the cases in which this advantage could be derived should be extremely well defined; nothing should be left contingent in a complaint so dangerous, and which has but one successful mode of treatment, so far as we yet know; namely, the delivery of the

* We say "if the membranes can be ruptured with propriety;" for this cannot and should not always be resorted to; for instance, it should never be done when the presentation is not natural, unless we mean to proceed immediately to artificial delivery. And if this should be deemed expedient, there can be no propriety in giving the ergot, for the less opposed we are by pain, during turning, the better. It, therefore, also follows that this substance should not be given in cases where it will be certainly necessary to turn; especially if the waters have been long drained off.

child. Now, with these admissions, we are well disposed to receive any evidence in favour of the remedy proposed, and for the particular species of hæmorrhage in question. And, if Dr. Ward will assure us, from his own experience, that the ergot will supersede the necessity of artificial delivery, from the promptness with which it effects delivery, we will hail this substance, as one of the most valuable of our therapeutical agents; but until this is done, we shall feel a reluctance to adopt this remedy in the cases under consideration, as *reasoning* appears to be decidedly against its employment.

Let me be borne with a little longer, as this subject is one of high interest in every point of view; for a placental presentation is always one of great danger, even under the best management; and it is almost necessarily fatal, under bad. Do not let me be supposed, in this investigation, to substitute reasoning for facts; for the very contrary would be my wish. But until I shall be in possession of unequivocal testimony in its favour, I shall remain, at least doubtful, of the safety of employing it.

I have in so many words declared, that reasoning is against the use of the ergot in the unavoidable hæmorrhage; I will now endeavour to show this to be the case. The primary object in all cases of hæmorrhage, is to arrest the bleeding; now, in the cases in question, this is particularly necessary, if it be even temporarily; and for this purpose a variety of means are resorted to; but, this cannot be done absolutely, but by delivery. Why should delivery be the only certain remedy in this case? for several reasons; first, because a temporary suspension of the bleeding is no security against its return; as the very mechanism of labour causes the placenta to detach itself from the mouth of the uterus; and when this takes place, hæmorrhage must ensue; and this in the exact ratio to the extent of the separation. Second, this being the case, it follows, that whatever tends to increase this separation, will necessarily augment the bleeding—uterine contractions have this tendency; and the ergot is almost certain to provoke or increase uterine contraction; consequently, to increase hæmorrhage. Third, because pains may exist for some time, without the os uteri being disposed to yield; yet during the return of each pain, the hæmorrhage is increased; consequently, if the uterine contractions be increased in force or frequency by any agent whatever, and the mouth of the uterus does not dilate in the same proportion, mischief, instead of good, must be the result.

For these reasons, we are of opinion, that the ergot should not be used in cases of placental presentations, as a general practice; and if

used at all, it should only be when the os uteri is well dilated, or easily dilatable. In such cases, it may be occasionally useful, by urging the uterus to brisker contractions; and thus effect the delivery of the child, as speedily, perhaps, as if turning had been resorted to; especially, if this must be attempted by the inexperienced practitioner.

The ergot may be used with a fair prospect of success, when the head of the child has been left within the cavity of the uterus after the delivery of its body, when no objection can arise from the unhealthy condition of the pelvis.

I have also derived much advantage in several cases of menorrhagia, where the long continuance of the disease, rather than the immediate excess of the quantity discharged rendered it important, it should be arrested. I have given in such cases one grain, three times a day, in the form of a pill, and continued it for some time.

It may also be useful in cases of polypi; where it shall be desirable to force these substances beyond the neck of the uterus, for the purpose of applying a ligature, or with a view to their excision. I have some time since, suggested its probable usefulness in hydatids of the uterus;* and its value in such cases has been in part realized by Dr. MACGILL.†

ART. II. *Case of Obstinate Cough, occasioned by elongation of the Uvula, in which a portion of that organ was cut off, with a description of the instrument employed for that purpose, and also for excision of scirrhus tonsils*, by PHILIP SYNG PHYSICK, M. D. Professor of Anatomy in the University of Pennsylvania. [With a plate.]

IN June last, a young lady afflicted with a very obstinate cough, applied to Dr. Physick, and gave him the following history of her case, drawn up by her physician at New Orleans.

"The first circumstances which had any connection with the singular affection of this young lady, were, a complaint of constant head-ache, attended with a disposition to vomit without nausea occurring first, during convales-

* See Treatise on the Diseases of Females, Chap. "On Hydatids of the Uterus," by the author.

† See his interesting case in the preceding number of this Journal, p. 240.